REPORT

ON THE

Government Horticultural Gardens,

LUCKNOW,

FOR THE

YEAR ENDING 31ST MARCH 1903.

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TABLE OF CONTENTS.

I.—Introductory.

Para.		Page.
1.	Charge of the gardens	1
2.	Important administrative events	*ib.*
3.	State of the gardens	*ib.*
4.	Character of the season	2

II.—Acclimatization and other experimental work.

5.	Fruit and food-producing trees and plants...	2
6.	Other trees and plants of economic value	3
7.	Ornamental trees and plants	*ib.*

III.—Financial Results.

8.	Receipts	3
9.	Expenditure	4
10.	Surplus or deficit...	*ib.*

IV.—Miscellaneous.

11.	Training of gardeners	4.
12.	Arboriculture	*ib.*
13.	Flower show	5

Appendices.

Appendix A—Statement showing the receipts and expenditure of the Government Horticultural Gardens, Lucknow, for the year ending 31st March 1903 7

Appendix B—List of contributors to the garden during the year ending 31st March 1903 ... ... *ib.*

Appendix C—Showing the amount of plants and seeds distributed from the garden during the year ending 31st March 1903 ... 8

No. $\frac{1515}{V-689}$, of 1903.

From

F. J. PERT, Esq.,

Offg. Director of Land Records and Agriculture,

United Provinces,

To

THE CHIEF SECRETARY to GOVERNMENT,

United Provinces.

Dated Lucknow, the 4th June 1903.

Sir,

I have the honour to submit the report on the Lucknow Horticultural Gardens for the year ending the 31st March 1903.

2. Considerable improvement has been effected during the year in the condition of the gardens. The matters referred to in the Superintendent's paragraph 3 are still under the consideration of Government, and it is unnecessary to refer to them here.

3. The financial results have been satisfactory, and the entire credit for the generally efficient state of the gardens is due to Mr. Ridley.

4. Acknowledgments are due to the contributors mentioned in Appendix B.

I have the honour to be,

Sir,

Your most obedient servant,

F. J. PERT,

Offg. Director.

REPORT on the GOVERNMENT HORTICULTURAL GARDENS, LUCKNOW, for the year ending 31st March 1903.

I.—INTRODUCTORY.

1. *Charge of the Gardens.*—I was absent on leave on private affairs for six months, *viz.* from the 1st of May to the 3rd of November. During my absence Mr. Davies, Superintendent of the Allahabad Gardens, was in charge here: he also held charge of the Allahabad gardens at the same time. I am glad to say I found the gardens here in good order on my return.

In compliance with G. O. No. 3348-1593F., dated the 7th November 1902, I took charge of the Government Botanical Gardens at Saháranpur and managed those gardens as well as the gardens here from the 27th of November to the 21st of January, when Mr. Gollan resumed charge at Saháranpur on his return from the Coronation Darbár Camp at Delhi.

2. *Important Administrative events.*—It is with much regret that I have to record the death of Bábu Durga Pershad, who had filled the post of head clerk of the Garden Office for over 25 years.

By his death I lose a valuable assistant, as he always carried out his duties with great efficiency, sparing neither time nor pains to keep the office work in good order. Bábu Pryag Narain, assistant accountant of the Director's Office, officiated as head clerk from the 7th of April to the 4th of November, when, owing to illness, he had to take leave, at the end of which he reverted to his permanent appointment in the Director's Office.

The second clerk in my office, Bábu Anand Bihari Lal, was then promoted on probation as head clerk, and gives promise of becoming capable of filling the post efficiently.

The appointment of 2nd clerk thus made vacant has been filled by the appointment of Pandit Krishna Nand.

The Garden Chaudhri and his assistants have carried out their respective duties satisfactorily.

3. *State of the Gardens.*—So far as it applies to the permanent fruit and other trees, nurseries, &c., the general state of the garden may, I think, be correctly described as normal; but as shown in the communication made to Government by the Officiating Director, Mr. Butler, the expenditure of a large amount of capital is necessary to put the garden into a more satisfactory condition. The extra grant of Rs. 10,000, which Government has been pleased to allot for expenditure in the year under report, will provide several long-felt requirements of a permanent kind, and the contemplated erection of quarters for the subordinate garden staff will be of the greatest convenience when completed. The very important question of enclosing the garden with an efficient fence remains to be considered. In view of the fact that the garden contains a highly valuable collection of trees, plants, &c., the outlay of a large sum for its protection is very necessary: at present the garden is practically unfenced. The above grant has provided for the following very necessary works and requirements:—Furniture for the office and seed store, a new plant house, store, and packing shed, metalling and widening the main roads,

heightening the rose tunnel; improvement of water-supply and several minor works: when completed, these works and improvements will put the garden in a much more efficient and satisfactory condition and make it more useful and attractive to the public.

4. *Character of the season.*—Taken on the whole, the season was more normal than has been the case for several years past.

The hot weather was of the kind usually experienced in ordinary years and the rains set in about the usual time; they ceased rather early and left a rather long dry period till January, when a good fall occurred; the rest of the year has been dry and so vegetation in general is suffering from want of moisture. The cold was unprecedented in my long experience of Lucknow weather and the degree of frost experienced has, I believe, not been equalled within the last 30 years; fortunately little injury was caused by it in this garden, due, no doubt, to the abundant shrub and tree growth, which has steadily been increasing for the above-named period and now acts as an efficient protection against both extreme cold and hot dry winds.

II.—ACCLIMATIZATION AND OTHER EXPERIMENTAL WORK.

Fruit crops.

5. *Fruit and food-producing trees and plants.*—We had a good fruit year: all the leading kinds grown in the garden bore good average crops; the mango crop being an exceptionally good one. Oranges, limes, figs, loquats, peaches, jack-fruits, and pine-apples yielded well. Plums were a very poor crop. Fruit-growing for profit has become almost an impossibility in Lucknow, owing to a combination of the *khatiks* who buy such crops: it seems all the fruit orchards in the neighbourhood are parcelled out, one or more gardens being allotted to each leading dealer, a certain price is agreed upon, and when the auction sale of the crop is held, none of the brotherhood will bid over it; so, in effect, it is knocked down to the buyer at his own, generally very modest, valuation. For these reasons it seems to me that fruit-growing for revenue purposes may with advantage be abandoned. More space is yearly needed for the purpose of raising nursery stock and so can, for that kind of work, be more usefully utilized than in growing fruit crops for the special benefit of the fruit-dealers. Of course a number of fruit trees must be grown for purposes of propagation. I only contemplate restricting the area, and that gradually, as it is required for nursery work.

Californian Pear.

A few fruits set on the Californian pear; but they were belated, and so came to nothing. It seems very doubtful if these pears can be successfully grown so far south as Lucknow. The health and vigour of the trees are all that can be desired, and the cultivation and treatment are the same as given at Saháranpur, were I had an opportunity of examining the trees when in charge of that garden.

Carica papaya.

Several trees of *carica papaya* raised from seed, received two years ago from the Government Botanical Garden, Bangalore, fruited. It is a distinct variety: the chief distinctive feature is in the fruits being placed well apart from each other; no thinning is necessary as in the case of the old variety.

The fruits are also rounder in form than the latter, and also somewhat larger in size. I consider it a superior variety.

Fruit Nurseries.

See Appendix C.

There was a good demand for fruit trees, chiefly for grafted mangoes, and stocks in hand were all disposed of. The total number of fruit trees issued is 5,810 being an increase over last year of 608. The receipts by sale of this class of plants was also better by Rs. 202. The usual

Vegetable Garden.

vegetable garden was kept up, with very satisfactory results in all classes grown. Good stocks of seeds have been harvested of all the principal vegetable crops, both country and acclimatized. Disease in a mild

form attacked the tomato plants but it was checked by means of dressings with sulphur powder : the plants finally yielded a very good crop of fruit. It was noticed that the plants raised from imported seed suffered more than those grown from garden or acclimatized seed. Fungoid diseases of the kinds which attack plants and growing crops were much less virulent this year ; the potato disease, for instance, was not noticed in the garden, and from inquiries made no damage was done by it in the neighbourhood. Rust to, was little seen on cereal crops. In previous reports it has been explained that the ground area attached to the garden is too limited to admit of experiments being undertaken with field crops.

No experiments were made this year with either grain or fodder crops.

Agava Sisalana.

6. *Other trees and plants of economie value.*—Only one small indent was received for plants of *Agava sisalana*. One of the old plants planted in the Wingfield Park, where it has been regularly watered in the dry season, is flowering ; no doubt a good supply of bulbils will be secured. The old stock of plants has been steadily propagated from root suckers till it numbers a total of 940 plants of all sizes. It may interest those who are contemplating aloe fibre culture to know that a plantation recently formed in the Jhánsi district of *Agava vivipara* suffered considerably from frost in December and January last.

7. *Ornamental trees and plants.*—The splendid stock of palms referred to in para. 7 of last year's report has all been sent out ; chiefly to meet the large demands for such plants for the Coronation Darbár at Delhi. No less than 3,000 plants in pots—many of them large, well grown specimens—were supplied to the officer in charge of the Darbár Camp, and for which no charge was made ; reckoned at ordinary sale value the plants so issued were worth Rs. 6,118. It took several years to work up this fine stock of palms, and it will of course take years to replace it. None of the plants were returned here, and no information has been given as to what finally became of them.

See Appendix O.

There was a good demand for trees, shrubs and ornamental plants, the total reaching 48,372, an increase over last year of 7,940. In this number is included the 3,000 plants supplied free of charge to the Delhi Darbár for Government use ; omitting these, the year's increase over last, is 4,940. Demands for the Darbár from native chiefs accounts largely for this increase. The rose nursery was well stocked at the beginning of the year, and with small exceptions met all demands made upon it. Propagation in all sections has been vigorously carried on ; and with the exception of palms as above mentioned, the nursery stocks available for distribution for the coming year are full in numbers and good in quality.

See Appendix C.

In the seed department, too, the figures show an advance upon those of last year. The total number of packets issued being 10,942 or an increase of 887 over last year's issue. The total weight of seeds issued amounts to 2,402lbs. 10oz., the increase over last year being 70lbs. 15oz.

III.—FINANCIAL RESULTS.

See Appendix A.

8. *Receipts.*—The estimated receipts for the year were Rs. 17,300 and the actual receipts amounted to Rs. 18,423 or Rs. 1,123 over the estimate. By adding the value of plants, seeds, &c., issued free and at reduced rates, exclusive of the value of the plants and cut flowers supplied free of charge to the Coronation Darbár, the year's outturn amounts to Rs. 20,257 which shows an increase over last year's figures of Rs. 410. But if to these figures is added the value of plants and cut flowers supplied to the Delhi Camp, *viz.* Rs. 6,668, the grand total out-

turn for the year reaches Rs. 26,925, showing a total advance over last year of Rs. 6,158.

See Appendix A.

9. *Expenditure.*—The budget allotment for expenditure was Rs. 17,700 and the actual expenditure Rs. 17,525; to this must be added the special grant of Rs. 10,000 for the purposes mentioned in paragraph 3. This brings up the total allotment and expenditure for the year to Rs. 27,700 and Rs. 27,525 respectively.

10. *Surplus or Deficit.*—Comparing the ordinary receipts and expenditure of the year, the receipts exceed the expenditure by Rs. 898 by adding to this the value of plants, seeds, &c., distributed free and at reduced rates, omitting the value of those supplied for Government use at Delhi, the excess over expenditure or profit on the year's working amounts to Rs. 2,732. Taking, however, the extra grant of Rs. 10,000 into account, the actual figures stand as follows :—

Expenditure Rs. 27,525 against a total income of Rs. 26,925, leaving a deficit of Rs. 600. It is thus seen that the special grant of Rs. 10,000 has been all but covered by produce issued from the garden during the year, and which I trust will be regarded as highly satisfactory.

IV.—MISCELLANEOUS.

11. *Training of Gardeners.*—The very excellent facilities which the garden affords for securing a sound practical training in general gardening is, I am sorry to say, little availed of by those most interested. The difficulty of getting suitable boys to enter as apprentices seems to become greater every year. A good many men who would make very good gardeners and artizans are led away by the ready facilities afforded for securing an education to fit them for clerkships, to adopt that line in preference to, as good, or better paid employment as gardeners or artizans. With many changes and by taking somewhat inferior boys the strength of the apprentice staff has been kept up, but it seems as if very little real progress was made in turning out trained competent gardeners. During the course of the year 30 applications were received for trained gardeners, few of which could be complied with.

First and second class subscribers.

The number of subscribers is 12, *viz.* eight first class and four second class.

12. *Arboriculture.*—I regret to say a good deal of damage was done by frost to young trees of all the tender kinds in the arboricultural nursery. Mangoes suffered most : they have been practically all killed by the severe cold. All the small grafted trees succumbed and many of the larger and older trees which had hitherto escaped were badly injured by this year's frost. There was a considerable falling off in the issue of young trees during the year : the total sent out numbering 4,556 only, which is only about half of last year's distribution. Propagation has been kept up to the extent of estimated requirements for the coming year; but owing to losses from cold, the total stock in hand has been reduced to 11,138 trees. The allotment for the year was Rs. 1,268 and the expenditure Rs. 1,024, leaving a saving of Rs. 244 which lapsed. Receipts amounted to Rs. 301, which was duly paid in to the Chairman, District Board.

Date Plantation.—There is nothing calling for special notice in connection with the Date Plantation, which is in very much the same condition as it was in last year. The allotment for maintenance for the year was Rs. 350 and the expenditure Rs. 295. The saving of Rs. 55 lapsed. Receipts amounted to Rs. 31 : this was realized chiefly from sale of grass. This amount was paid to the Chairman, District Board.

Exotic Plantation.—No additions were made to the trees under trial in the Exotic Plantation; but some losses occurred from the severe frost experienced in December and January.

All the plants of Arabian Date Palm and *Manihot glaziovi* in this plantation having died off, they are consequently struck off the list of kinds under trial, which now stands as follows :—

Names of trees under trial.	Number alive last year.	Number alive this year.	Remarks.
Antidesma dallachayna ...	2	2	Healthy, growth slow.
Broussonetia papyrifera ...	4	4	Ditto; little growth.
Bambusa oliveriana ...	2	2	Ditto ; and doing well.
Biota Sp.	12	12	Ditto ; little growth.
Casuarina tenuissima ...	4	4	Ditto ; fair progress.
Ceratonia siliqua	6	6	Ditto ; little progress.
Eucalyptus rostrata ...	17	17	A few trees doing well ; others badly.
Eucalyptus cerbera ...	28	22	Six dead : doing badly.
Eucalyptus tereticornis ...	45	44	One dead : a few doing moderately ; rest badly.
Ficus triemanii	5	5	Doing fairly well.
Ficus tsiela	6	6	Ditto.
Garcinia Roxburghii ...	6	6	Healthy ; very slow growth.
Leacuna glauca	5	5	Have sprouted again but made little growth.
Maclura aurantiaca ...	4	4	Doing well.
Melia azadarach var umbraculiformis.	6	6	Healthy and doing fairly well.
Pterocarpus marsupium ...	4	4	Two doing well ; two indifferently.
Pithecolobium saman ...	15	14	One dead ; rest fast decaying
Smietenia macrophylla ...	5	6	One added; very little progress.
Tecoma serratifolia ...	3	2	One dead ; rest have made little growth.

The allotment for maintenance for the year was Rs. 100 and the expenditure Rs. 83 ; the balance lapsed.

13. *Flower Show.*—The flower show was held on the same date as last year, *viz.* 28th February. I am glad to say the show was a very successful one. The exhibits in nearly all classes were good, quite up to the average standard ; and competition was as keen as ever. The show of vegetables was specially good, and the competition in most classes was marked by numerous exhibits. The expenses of the show were met by public subscription and gate money, which brought in Rs. 494 and Rs. 291, respectively. The amount disbursed in prizes was Rs. 519 and miscellaneous expenses absorbed Rs. 195.

The balance at the credit of the show fund now stands at Rs. 574.

In the three prescribed appendices are given details of the contributions of seeds and plants received and sent out, also of receipts and expenditure for the year.

M. RIDLEY,

Superintendent, Government Horticultural Gardens,

Lucknow,

APPENDIX A.—(*See Report, paragraphs* 8 *and* 9.)

Statement showing the receipts and expenditure of the Government Horticultural Gardens, Lucknow, for the year ending 31*st March* 1903.

Heads.	Actuals of 1901-1902.	Budget estimate of 1902-1903.	Actuals of 1902-1903.
1	2	3	4
RECEIPTS.			
Interest on Government Notes	94	...	94
Rent of land	273	...	396
Subscription	228	17,300	240
Sale of garden produce	14,101	...	14,487
Miscellaneous	2,991	...	3,206
Total Receipts ...	17,687	17,300	18,423
CHARGES.			
Salary of Superintendent, &c.	3,806	3,807	2,972
Establishment	4,976	5,128	5,015
Allowances	...	200	667
SUPPLIES AND SERVICES.			
Purchase of seeds and plants	4,128	3,580	4,262
Ditto live-stock	242	270	270
Feed of live-stock	1,248	1,400	1,450
Purchase of manure	36	100	61
Maintenance of premises	476	500	9,855
Coolie labour	963	1,000	1,030
Contingencies	1,641	1,763	1,943
Deduct for rounding	...	48	...
Total Charges ...	17,516	17,700	27,525

APPENDIX B.

List of contributors to the Garden during the year ending 31*st March* 1903.

Name of contributors.	Name and description of articles contributed.
The Superintendent, Royal Botanical Garden, Calcutta.	Four kinds of palm seeds.
The Superintendent, State Garden, Gwalior.	One packet *Ceratonia siliqua*.
Corporation of the City of Cape Town Public Garden, South Africa.	Twelve packets of tree and shrub seeds.
Director of Botanical Gardens, Melbourne.	Fifteen packets of seeds of shrubs and trees.
The Superintendent, Botanical Garden, Saháranpur.	Seven kinds of acclimatized vegetable seeds.
	Forty-six cuttings of choice named chrysanthemums.
The Superintendent, Government Gardens, Allahabad.	Two lime Amilbaid; 1 mango (Bangalore).
The Superintendent, State Gardens, Baroda.	Twelve seeds of *Hyphæne thebaica*.
The Conservator of Forest, Bengal, Darjeeling.	1lb of seeds of Arundinaria Hookeriana.
Dr. Bonavia, Westwood, Richmond, England.	Eleven kinds of vine plants.
The Superintendent, Agri-Horticultural Society of India, Calcutta.	One packet *Sterculia trichosiphon*.
Mr. A Parson, Simla	Four packets of *Cupressus* seeds.
Superintendent Government Gardens, Ootacamund.	Sixteen packets tree and shrub seeds.
The Superintendent, Government Agri-Horticultural Gardens, Lahore.	A hundred and five cuttings of choice named chrysanthemums.

APPENDIX C.—(*See Report, paras. 5 and 7.*)

Showing the amount of plants and seeds distributed from the Gardens during the year ending 31st March 1903.

Name of Deptt., &c., supplied.	Plants.									Seeds.						
	Fruits.			Ornamental plants and timber trees.		Ornamental plants and shrubs.		Bulbs and tubers.	Total.	Vegetable.	Flowers.	Fruits.	Tree and shrub.	Miscellaneous.	Total.	
	Plants.	Cuttings.	Strawberries.	Plants.	Cuttings.	Plants.	Cuttings.								Number of packets.	Weight.
																lb oz.
Arboriculture	206	...	...	1	...	...	...	...	207	...	...	...	...	...	...	...
General Public	3,051	28	7,900	1,474	18	9,196	574	7,984	30,135	2,110	5,672	9	48	...	7,839	1,859 0
Government and Public Gardens in India.	2,348	...	4,700	1,436	...	5,697	34	3,524	17,739	724	2,299	...	18	9	3,050	529 11
Government and Public Gardens in other countries.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Jails	205	...	...	...	...	86	...	...	291	32	21	...	...	...	53	13 15
Total ...	5,810	28	12,600	2,911	18	14,979	608	11,508	48,372	2,866	7,992	9	66	9	10,942	2,402 10

ORDERS OF GOVERNMENT.

No. $\frac{2198}{\text{I—844G}}$ OF 1903.

FROM

W. H. L. IMPEY, ESQ., C.S.I.,

CHIEF SECRETARY TO GOVERNMENT,

UNITED PROVINCES,

To

THE DIRECTOR OF LAND RECORDS AND AGRICULTURE,

UNITED PROVINCES.

DATED NAINI TAL, THE 15TH JULY 1903.

SIR,

REVENUE DEPT.

I AM directed to acknowledge the receipt, under cover of your letter No. $\frac{1515}{\text{V—689}}$, dated $\frac{4\text{th}}{24\text{th}}$ June 1903, of the Report on the Government Horticultural Gardens at Lucknow for the year ending 31st March 1903. The financial results of the year were again satisfactory and creditable to the officers in charge. Apparently some Rs. 700 of the grant of Rs. 10,000 made by the Government for special improvements could not be spent within the year. In the circumstances explained by Mr. Ridley in paragraph 5, the Government agrees that fruit growing for profit may be gradually abandoned; the large demand for young fruit trees will continue to be met, and the growing of good fruit for sale can now safely be left to professional fruit growers. The Lieutenant-Governor regrets to observe that suitable apprentices cannot be obtained, notwithstanding the fact that there is a large demand for trained gardeners who receive high rates of pay.

2. I am to request that the acknowledgments of Government may be conveyed to the contributors to the gardens.

I have the honour to be,

SIR,

Your most obedient servant,

W. H. L. IMPEY,

Chief Secretary.

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Hemendra Kothari

on 24 February, 2020